PMRF-ISSS Teaching Programme

Prime Minister Research Fellowship students' teaching requirement facilitated by the Institute of Smart Structures and Systems

Module PMRF-ISSS106/II/2024

Multiscale approach to evaluate EM absorption

Name of the PMRF student

Attada Phanendra Kumar

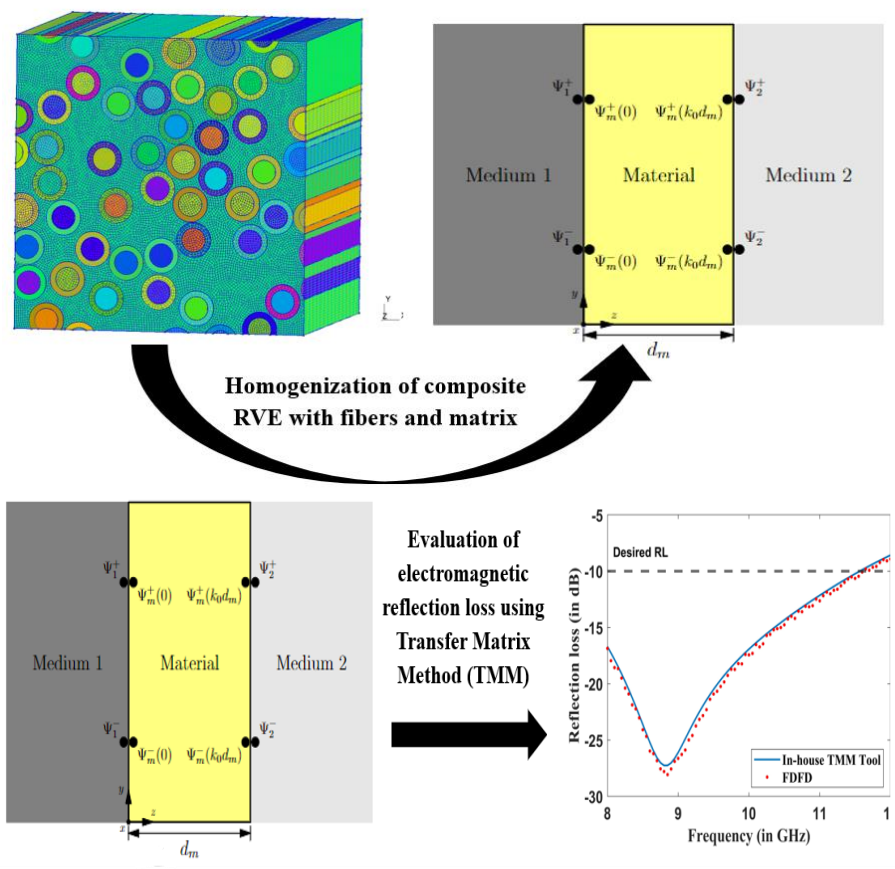
Required background of the students taught

It is a research-oriented course.

Basic idea on composites would be beneficial. This lecture series would be beneficial for students working on electromagnetic absorption characterization.

Online session coordinator

Will be chosen from the list of registrants



Source: Journal paper

Details of the content of the module

1. Introduction to composites
2. Existing homogenisation techniques.
3. Homogenisation of composite electromagnetic properties using computationally efficient variational asymptotic method.
4. Introduction to computational electromagnetics.
5. Maxwells equations and electromagnetic principles.
6. Transfer matrix method to evaluate EM absorption characteristics of layered homogenous structures.
7. Modified transfer matrix method using scattering matrix to evaluate EM absorption characteristics.
8. Explaining the entire methodology using already published research works.

Schedule of the module

TIME: 1:30 hours lectures will be uploaded every Friday, Saturday & Sunday

START DATE: August 2, 2024

END DATE: August 25, 2024

TOTAL SESSIONS: 12 Lectures

Meeting link : Will be shared later

Link

Contact email ID: isss.forum@gmail.com

Registration link:

https://docs.google.com/forms/d/e/1FAIpQLSezDjjLpbYnjmRTv8MfTnxVbXFL37c44ZrBRpj2RuZHnfm_Kg/viewform